Filing Date: August 11, 2006
Title: FLOATING POINT ADDITION

Page 2 Dkt: P23543

IN THE CLAIMS

1-20. (Cancelled)

- 21. (Currently Amended) A processor comprising:
 - a first <u>hardware</u> logic to convert a first operand from a first format into a second format; and
 - a second hardware logic to combine a portion of the converted first operand with a portion of a second operand that is in the second format, wherein an operand analyzer hardware logic is to analyze the converted first operand and the second operand to determine whether one of the first or second operands corresponds to a denormal operand and wherein the operand analyzer is to generate one or more signals to allow shifting of an output of the first logic in response to a determination that one of the first or second operands corresponds to the denormal operand.
- 22. (Previously Presented) The processor of claim 21, further comprising a third logic to compare a first exponent corresponding to the first operand with a second exponent of the second operand.
- 23. (Previously Presented) The processor of claim 22, further comprising a fourth logic to modify a larger one of the first exponent or second exponent in accordance with the comparison.
- 24. (Previously Presented) The processor of claim 22, further comprising a fourth logic to align the portion of the converted first operand and the portion of the second operand in accordance with the comparison.
- 25. (Previously Presented) The processor of claim 21, wherein the second logic combines a plurality of single precision operands in a same path as a double precision exponent or a double-extended precision path.
- 26. (Previously Presented) The processor of claim 21, further comprising a third logic to convert the second operand from a third format into the second format.
- 27. (Previously Presented) The processor of claim 21, wherein the portion of the converted first operand or the portion of the second operand comprises a mantissa.
- 28. (Previously Presented) The processor of claim 21, wherein the second logic combines the portion of the converted first operand and the portion of the second operand by an addition operation or a subtraction operation.
- 29. (Previously Presented) The processor of claim 21, further comprising a third logic to normalize results of the combination by the second logic.
- 30. (Previously Presented) The processor of claim 21, further comprising a third logic to round

results of the combination by the second logic.

- 31. (Currently Amended) The processor of claim 21, further comprising a third logic wherein the operand analyzer logic is to analyze a portion of the converted first operand and the second operand to determine whether one of the first or second operands corresponds to [[a]] the denormal operand.
- 32. (Previously Presented) The processor of claim 21, further comprising one or more processor cores, wherein at least some of the one or more processor cores comprise one or more of the first logic or the second logic.
- 33. (Previously Presented) The apparatus of claim 32, wherein at least one of the one or more processor cores, the first logic, and the second logic are on a same die.
- 34. (Currently Amended) A method comprising:

modifying a plurality of operands into a same format; [[and]]

combining a plurality of mantissas corresponding to the modified plurality of operands;

analyze the modified plurality of operands to determine whether one of the plurality of operands corresponds to a denormal operand; and

generating one or more signals to allow shifting of the modified plurality of operands in response to a determination that one of the plurality of operands corresponds to the denormal operand.

- 35. (Previously Presented) The method of claim 34, further comprising comparing portions of the modified plurality of operands.
- 36. (Previously Presented) The method of claim 34, further comprising aligning portions of the plurality of mantissas.
- 37. (Previously Presented) The method of claim 34, wherein combining the plurality of mantissas comprises adding the plurality of mantissas.
- 38. (Previously Presented) The method of claim 34, further comprising normalizing results of the combination of the plurality of mantissas.
- 39. (Previously Presented) The method of claim 34, further comprising rounding results of the combination of the plurality of mantissas.
- 40. (Currently Amended) A system comprising:

a memory to store data;

a first <u>hardware</u> logic to fetch an opcode, a first operand, and a second operand from the memory;

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/589,448

Filing Date: August 11, 2006

Title: FLOATING POINT ADDITION

Page 4 Dkt: P23543

a second <u>hardware</u> logic to modify the first operand and the second operand into a same format; and

a third <u>hardware</u> logic to align one of the first or second operands in accordance with a comparison of a first exponent corresponding to the first operand and a second exponent corresponding to the second operand, wherein an operand analyzer hardware logic is to analyze the converted first operand and the second operand to determine whether one of the first or second operands corresponds to a denormal operand and wherein the operand analyzer is to generate one or more signals to allow shifting of an output of the first logic in response to a determination that one of the first or second operands corresponds to the denormal operand.

- 41. (Previously Presented) The system of claim 40, further comprising a fourth logic to combine a portion of the first operand and a portion of the second operand.
- 42. (Previously Presented) The system of claim 41, further comprising a fifth logic to normalize an output of the fourth logic.
- 43. (Previously Presented) The system of claim 41, further comprising a fifth logic to round an output of the fourth logic.
- 44. (Previously Presented) The system of claim 41, wherein the fourth logic combines the portion of the first operand and the portion of the second operand through an addition operation or a subtraction operation.
- 45. (Previously Presented) The system of claim 40, further comprising a fourth logic to rotate an output of the second logic or the third logic.
- 46. (Currently Amended) The system of claim 40, further comprising a fourth logic wherein the operand analyzer logic is to analyze a portion of the first operand and the second operand to determine whether one of the first or second operands corresponds to a denormal operand.
- 47. (Previously Presented) The system of claim 40, wherein the memory comprises one or more of a level 1 cache, a mid-level cache, or a last level cache.
- 48. (Previously Presented) The system of claim 40, further comprising a plurality of processor cores to access the data stored in the memory.
- 49. (Previously Presented) The system of claim 48, wherein at least one of the plurality of processor cores and the first logic are on a same die.
- 50. (Previously Presented) The system of claim 40, further comprising an audio device.